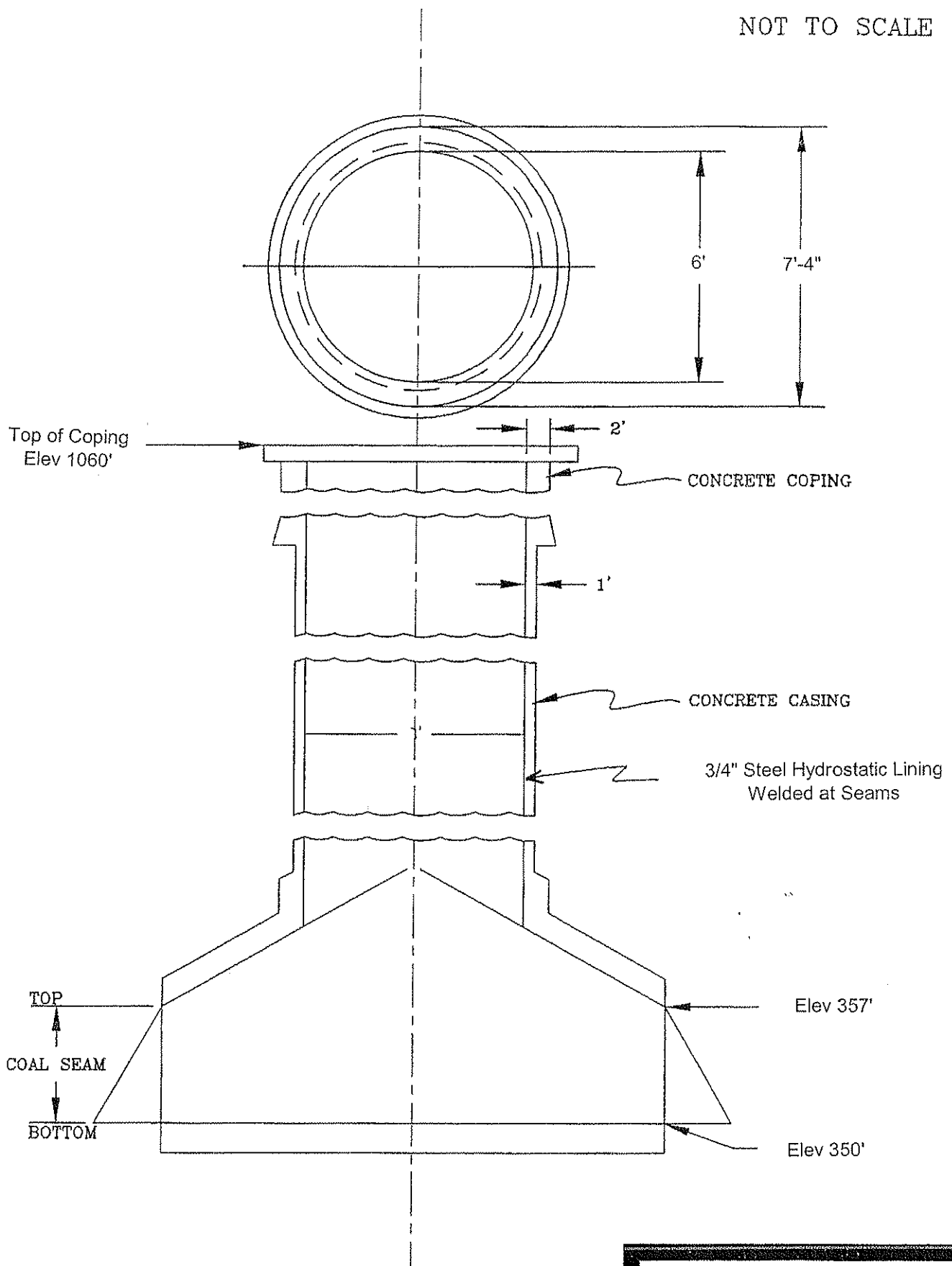


NOT TO SCALE



MORRIS RUN I SHAFT DESIGN
NOT TO SCALE

ATTACHMENT M
WELL CONSTRUCTION DETAILS

4.0 EXISTING SHAFT (WELL) CONSTRUCTION

The Morris Run I Shaft was constructed in 1987/1988 in support of the Blacksville 1 mining operation. As indicated on attached Morris Run Shaft Design, the shaft is 6-feet in diameter (I.D.) and is lined with a ¾-inch steel casing from the ground surface to the mine void. The one-foot annulus between the casing and surrounding bedrock is filled with concrete. A description of the construction methodology is attached.

The shaft is currently capped with steel beams and steel coping covered with concrete. The cap is vented to the atmosphere to prevent the buildup of methane gas.

5.0 MECHANICAL INTEGRITY INSPECTION

On April 25, 2005 Geologic Logging Systems (GLS) conducted an inspection of the Morris Run Shaft for mechanical integrity. A letter report from GLS is attached. The following personnel were present at the inspection:

David Rectinwald, Hydrologist, Environmental Protection Agency Region III

Ed Anastasi, Manager of Energy Development, CNX GAS Company LLC

Don Gibson, Manager of Northern Region Gas Operations, CNX GAS Company LLC

Marlin Cassady, Logging Engineer, Geologic Logging Systems

Following a screen for methane gas, a video camera was lowered into the shaft cap through a gas ventilation pipe and the shaft wall was inspected and filmed along its entire 710-ft. length. Visibility was clear within the shaft. A continuous video recording was made and is available upon request.

The condition of the walls was observed to be in good condition with no visible cracking or physical deterioration noted that would impact the mechanical integrity of the structure. Minor surficial flaking or scaling of the steel lining in portions of the shaft was observed. There was no evidence that the walls would leak injected CBM water (under gravity flow) into the surrounding strata and cause fluid movement into an underground source of drinking water so as to create a significant risk to the health of persons.

BLIND HOLE SHAFT CONSTRUCTION METHOD

MORRIS RUN BLEEDER SHAFT

1. Drill 16-inch diameter hole from the surface to the coal seam (approximately 700-ft.).
 - a. Hole is logged.
 - b. This hole serves as a guide hole.
2. A nominal 8-foot diameter drilling bit with a long nose guide bit placed in the guide hole is used to drill the hole from the surface to the top of the coal seam.
3. Air is injected down the drill steel to the center of the hole. Water is injected outside the giant boring bit. By hydrostatic pressure, the water and cuttings are drawn to the center of the hole and out the drill steel. The hole is drilled to an approximate 8-foot diameter to the top of the coal seam.
4. The 8-foot diameter shaft is filled with water to within 20-feet of the top.
5. A steel casing segment, $\frac{3}{4}$ -inch wall thickness X 6-feet in diameter X 30-feet in length with a metal attached bottom is placed and floated in the shaft. Water is pumped into the casing cylinder with the attached bottom until the top of the cylinder is about 5-feet off the ground.
6. A second 30-foot cylinder with an open bottom is aligned over the floating cylinder and the seam is completely welded.
7. Water is pumped into the extended cylinder until only about 5-feet is above ground level. Another 30-foot cylinder is positioned over the floating casing and the seam is welded. The process is completed until the casing is extended downward to the top of the coal seam.
8. At this point concrete is pumped around the steel casing in lifts to tie the steel casing to the excavated borehole. Cementing to a thickness of 12 inches around the casing continues until the casing is poured to the surface.
9. Concrete is poured thicker around the top portion of the shaft forming a stabilizing hitch.
10. The coal is mined under the excavated, cased and cemented shaft and the bottom plate is removed from underground.

Shaft was constructed around 1987/1988 by Zeni Drilling (since purchased by North American Drillers).